

The following Listing of the Claims will replace all prior versions and all prior listings of the claims in the present application:

Listing of the Claims:

1 – 7 (Canceled)

8. (Previously amended) A nucleic acid encoding a 5'OT-EST polypeptide comprising an amino acid sequence selected from the group consisting of the sequences set forth in any one of SEQ ID Nos. 2, 4, or 6.

9. (Previously amended) The nucleic acid of claim 8, having a sequence selected from the group consisting of SEQ. ID. Nos. 1, 3, 5, 7, 16 or 17, wherein a polypeptide encoded by a said nucleic acid sequence modulates the obesity of an animal.

10. (Previously amended) The nucleic acid of claim 9, comprising the sequence with SEQ ID NO: 31.

11. (Previously amended) A nucleic acid vector comprising a nucleic acid sequence of any one of claims 8 to 10.

12. (Previously amended) The vector of claim 11, wherein said vector is a cosmid vector.

13. (Previously amended) The vector of claim 11 or 12 further comprising one or more sequences selected from the group consisting of sequences of the coding region of the oxytocin (OT) gene, the coding region of the vasopressin (AVP) gene, or the coding region of the human growth hormone (hGH) gene.

14. (Previously amended) A vector of claim 12, wherein said vector has the structure of cVO14 as set forth in Figure 4 (SEQ. ID. No. 17).

15. (Previously amended) A cell transformed with a vector of any one of claims 11 to 14.

16. (Previously amended) A method for producing a 5'OT-EST polypeptide having a sequence selected from the group consisting of (a) the sequences set forth in any one of

SEQ ID Nos. 2, 4, 6, wherein said encoded amino acid sequence modulates the obesity of an animal, the method comprising transforming a cell with a vector of any one of claims 11 to 14 and culturing the cell to produce the polypeptide.

17-27 (Canceled)

28. (Currently amended) A diagnostic reagent comprising at least one detectably labeled nucleic acid probe of 15 to 50 bases 5-to-150 nucleotides which hybridizes in a solution containing 6X SSC, 5x Denhardt's, 1 % SDS (sodium dodecyl sulphate), 0.1 M Na⁺ pyrophosphate and 0.1 mg/ml denatured salmon sperm DNA 1M Na⁺ at 65°C to a sequence selected from the group consisting of any one of SEQ ID NOs 1, 3 or 5.

29. (Canceled)

30. (Canceled)

31. (Previously amended) The nucleic acid of claim 8, wherein said 5'OT-EST polypeptide, in vivo, modulates the obesity of an animal which expresses said 5'OT-EST polypeptide.

32. (Canceled)

33. (Previously Amended) The nucleic acid of any one of claims 8 or 31 wherein said 5'OT-EST polypeptide comprises the sequence of SEQ ID NO: 37.

34. (Previously Amended) The nucleic acid of any one of claims 8 or 31 wherein said 5'OT-EST polypeptide comprises the sequence of SEQ ID NO: 8.

35. (Withdrawn) A method for the detection of mutations, polymorphisms or other changes in 5'OT-EST which may predispose an individual to obesity, said method comprising hybridizing a nucleic acid sample from an individual to a detectable labeled probe that is capable of hybridizing to a sequence selected from the group consisting of (a) any one of SEQ ID NOs 1, 3 or 5, and (b) a sequence at least 90% identical over the full length of

one of SEQ ID Nos 1, 3 or 5, wherein a mutation, polymorphism or other change in 5'OT-EST sequence in said individual is detected.

36. (Previously Added) The diagnostic reagent of claim 28 wherein said at least one detectably labeled nucleic acid probe is 10 to 50 nucleotides in length.